FIRST AND SECOND DERIVATIVE PROCESSING OF WAVELENGTH MULTIPLEXED OPTICAL SIGNALS

ABSTRACT OF THE DISCLOSURE

A system and method for optimizing performance characteristics of optical networks. The system and method exploits a wavelength-locked loop servo-control circuit and methodology that enables real time adjustment of optical signals in accordance with attenuation characteristics of an optical transmission channel. Particularly, the invention enables alignment of optical signal center wavelengths and optical wavelength selective devices exhibiting a peaked passband function in optical networks utilizing information included in first derivative and second derivatives of dither modulated optical signals extracted from a feedback signal provided in the wavelength-locked loop servo-control circuit.